

PATENT
514413-3849AMENDMENT

Please amend the claims without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents, as follows:

In the Claims:

Sub 97 24. (Amended) An isolated nucleic acid molecule encoding a protein with the function of a wheat isoamylase, selected from the group consisting of

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- (a) a nucleic acid molecule encoding a protein comprising the amino acid sequence shown under SEQ ID NO: 2,
 - (b) a nucleic acid molecule comprising the nucleotide sequence shown under SEQ ID NO: 1 or a part thereof or a ribonucleotide sequence corresponding hereto;
 - (c) a nucleic acid molecule which hybridizes with a nucleic acid molecule mentioned under (a) or (b) or is complementary thereto, and
 - (d) a nucleic acid molecule whose nucleotide sequence deviates from the sequence of a nucleic acid molecule mentioned under (a), (b) or (c) owing to the degeneracy of the genetic code,

the nucleic acid molecule mentioned under (a), (c) and (d) having a homology of over 90% with SEQ ID NO: 1.

25. (Amended) The nucleic acid molecule as claimed in claim 24 which is a DNA molecule.

26. (Amended) The nucleic acid molecule as claimed in claim 25 which is a cDNA molecule.

Sub 97 27. (Amended) The nucleic acid molecule as claimed in claim 24 containing regulatory elements.

28. (Amended) The nucleic acid molecule as claimed in claim 24 which is an RNA molecule.

Sub 97 29. (Amended) An isolated nucleic acid molecule which specifically hybridizes with the nucleic acid molecule as claimed in claim 24 and has a homology of over 90% with SEQ ID NO: 1.

30. (Amended) The nucleic acid molecule as claimed in claim 29 which is an oligonucleotide with a length of at least 15 nucleotides.

31. (Amended) A vector containing the DNA molecule as claimed in claim 24.

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32. (Amended) The vector as claimed in claim 31 wherein said nucleic acid molecule is linked in sense orientation to regulatory elements which ensure transcription and synthesis of a translatable RNA in pro- or eukaryotic cells.

33. (Amended) The vector as claimed in claim 31 wherein said nucleic acid molecule is linked in sense orientation to regulatory elements which ensure the synthesis of an untranslatable RNA in pro- or eukaryotic cells.

34. (Amended) The vector as claimed in claim 31 wherein said nucleic acid molecule is linked in antisense orientation to regulatory elements which ensure the synthesis of an untranslatable RNA in pro- or eukaryotic cells.

35. (Amended) A host cell which is transformed with the nucleic acid molecule as claimed in claim 24 or a vector as claimed in claim 31 or a cell which is derived from the host cell.

36. (Amended) A process for the preparation of a protein encoded by the nucleic acid molecule as claimed in claim 24, wherein a host cell as claimed in claim 35 is cultured under conditions which permit said protein to be synthesized and said protein is isolated from the cultured cells and/or the culture medium.

37. (Amended) A process for generating a transgenic plant cell, wherein
a) the nucleic acid molecule as claimed in claim 24 or
b) the vector as claimed in claim 31
is integrated into the genome of a plant cell.

38. (Amended) A transgenic plant cell which has been transformed with the nucleic acid molecule as claimed in claim 24 or with the vector as claimed in claim 31 or a cell which is derived from the transgenic plant cell.

39. (Amended) A process for generating a transgenic plant cell, wherein
a1) the nucleic acid molecule as claimed in claim 24 or
a2) the vector as claimed in claim 31 is integrated into the genome of a plant cell
and
b) an intact plant is regenerated from said plant cell.

40. (Amended) A plant containing the plant cell as claimed in claim 38.

41. (Amended) The plant as claimed in claim 40 which is a crop plant.

42. (Amended) The plant as claimed in claim 41 which is a starch-storing plant.

43. (Amended) The plant as claimed in claim 42 which is a monocotyledonous plant or maize.

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44. (Amended) The plant as claimed in claim 43 which is a barley, rye or wheat plant.
45. (Amended) A propagation material of the plant as claimed in claim 40.
46. (Amended) A process for the production of starch comprising isolating starch from the plant cell as claimed in claim 38, the plant as claimed in claim 40 or the propagation material as claimed in claim 45.

Please add the following claims:

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47. (New) A nucleic acid molecule encoding a protein with the function of a wheat isoamylase, selected from the group consisting of
- (a) a nucleic acid molecule encoding a protein comprising the amino acid sequence shown under SEQ ID NO: 2,
 - (b) a nucleic acid molecule comprising the nucleotide sequence shown under SEQ ID NO: 1 or a part thereof or a ribonucleotide sequence corresponding hereto;
 - (c) a nucleic acid molecule which hybridizes with a nucleic acid molecule mentioned under (a) or (b) or is complementary thereto, and
 - (d) a nucleic acid molecule whose nucleotide sequence deviates from the sequence of a nucleic acid molecule mentioned under (a), (b) or (c) owing to the degeneracy of the genetic code,
- the nucleic acid molecule mentioned under (a), (c) and (d) having a homology of at least about 65% with SEQ ID NO: 1.
48. (New) A nucleic acid molecule which specifically hybridizes with the nucleic acid molecule as claimed in claim 47 and has a homology of at least about 65% with SEQ ID NO: 1.
49. (New) A host cell which is transformed with the vector as claimed in claim 31 or a cell which is derived from the host cell.
50. (New) A process for the preparation of a protein encoded by the nucleic acid molecule as claimed in claim 24, wherein the host cell as claimed in claim 49 is cultured under conditions which permit said protein to be synthesized and said protein is isolated from the cultured cells and/or the culture medium.
51. (New) A protein encoded by the nucleic acid molecule as claimed in claim 24.
52. (New) A protein encoded by the nucleic acid molecule as claimed in claim 47.
53. (New) A starch obtained from the plant cell as claimed in claim 38, the plant as claimed in claim 40, the propagation material as claimed in claim 45 or the plant cell as claimed in claim 49.